

This manual is provided by Ericsson AB without any kind of warranty. Improvements and changes in this description due to typographical errors, inaccuracies in current information, or improvements to programs and/or equipment may be made by Ericsson AB at any time without notice. These changes will, however, be incorporated into new editions of this manual.

No part of this publication may be reproduced, transmitted, stored in a retrieval system, nor translated into any human or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of the copyrighted owner, Ericsson AB.

TEMS is a trademark owned by Telefonaktiebolaget L M Ericsson.

All other trademarks are the property of their respective holders.

© 2002 Ericsson AB. All rights reserved.

Publication number: LZT 108 5760 R1B

Contents

- 1. Introduction 1**

- 1.1. What's New in TEMS Pocket T68i? 1
- 2. Overview 2**

- 2.1. Data Views 2
- 2.2. Menus 3
- 2.3. Note on TEMS Realtime Tools 4
- 3. Data Views 5**

- 3.1. General 5
- 3.2. The Built-in Help Function. 5
- 3.3. Serving Cell (1) 7
- 3.4. Neighbor List (2) 9
- 3.5. Cell Selection (3). 10
- 3.6. GPRS Cell Selection (4) 11
- 3.7. Cell Identity (5) 12
- 3.8. Current Channel (6). 13
 - 3.8.1. Idle Mode 13
 - 3.8.2. Dedicated Mode 14
- 3.9. Paging & RACH (7). 15
 - 3.9.1. Paging 15
 - 3.9.2. RACH. 15
- 3.10. CA List (8). 16
- 3.11. BA List (9) 16
- 3.12. GPRS Data (10) 17
 - 3.12.1. The GPRS Connection. 17
 - 3.12.2. GPRS Performance and Performance Statistics 18
- 3.13. GPRS Cell/PDP (11) 19
 - 3.13.1. GPRS Cell Configuration 19
 - 3.13.2. PDP Context Request 20

3.14. C/I (12)	22
3.15. The WAP Browser Data View	22
3.16. The Quick Menu	23
3.16.1. Quick Menu in Idle Mode	23
3.16.1.1. Accessing the Quick Menu from Neighbor List Data Views	23
3.16.1.2. Accessing the Quick Menu from Other Data Views	24
3.16.2. Quick Menu in Dedicated Mode	25
3.16.2.1. Accessing the Quick Menu in Dedicated Mode	25

4. Menus 26

4.1. General	26
4.2. Pocket Menu Overview	27
4.3. Navigating in the Menus	28
4.4. Data View Menu	29
4.4.1. Menu Items for Individual Data Views	29
4.4.2. Show All	29
4.5. Settings Menu	29
4.5.1. Text Size	30
4.5.2. WAP Data View	31
4.5.3. Messages	31
4.5.4. Backlight	32
4.5.5. Cell Id Format	32
4.5.6. Power Display	32
4.5.7. Measure Mode	32
4.5.8. Ignore TMSI	33
4.5.9. Auto Answer	33
4.5.10. Reset All	33
4.6. Info Menu	34
4.6.1. IMSI	34
4.6.2. IMEI	34
4.6.3. Time Log	34
4.7. Events Menu	35
4.7.1. View Log	35
4.7.2. Clear Log	35
4.7.3. Event Mode	35
4.7.4. Event Settings	36
4.7.5. List of Logged Events	37
4.7.5.1. GSM Events	38
4.7.5.2. GPRS Events	39

4.7.6. Event Sounds	41
4.8. Cell Control Menu	41
4.8.1. Reset	41
4.8.2. Lock ARFCN	42
4.8.3. Force HO	42
4.8.4. Disable HO	43
4.8.5. Lock Band	43
4.8.6. Multiband Rpt (Multiband Reporting)	44
4.8.7. Cell Barred	45
4.8.8. DTX Uplink	45
5. Controlling T68i GPRS Behavior	46
<hr/>	
5.1. GPRS Attach/Detach	46
5.2. PDP Context Activation	47
6. Support Contact Information	48
<hr/>	
Appendix A. Parameter Values	49
<hr/>	
A.1. Reject Cause	49
A.2. Radio Resource Cause	50
A.3. CCCH Configuration	50
A.4. Attach/Detach	50
A.5. Channel Type	51
A.6. Channel Mode	51
A.7. Frequency Hopping	51
A.8. Ciphering	51
A.9. Page Mode	51
A.10. GPRS Network Mode of Operation	52
A.11. Disconnect Cause	52
A.12. GPRS Attach Fail Cause	54
A.13. GPRS Detach Type	54
A.14. GPRS Detach Cause	55
A.15. Activate PDP Context Fail Cause	55
A.16. Deactivate PDP Context Cause	56
A.17. Routing Area Update Fail Cause	56

**Appendix B. Graphic Representation of
Parameter Values** **57**

B.1. RxLev	57
B.2. Cell Selection (C1, C2, C31, C32)	57
B.3. C/I	58
B.4. TxPower	58
B.5. FER, RLC/LLC Decode Errors/Retransmissions	58
B.6. RxQual	59

**Appendix C. Default Settings in TEMS Pocket
Menus** **60**

C.1. Data View Menu	60
C.2. Settings Menu	60
C.3. Info Menu	60
C.4. Events Menu	60
C.5. Cell Control Menu	61

Index **63**

1. Introduction

Welcome to TEMS Pocket.

TEMS Pocket is a basic mobile network diagnostics tool built into an Ericsson T68i GPRS mobile station. TEMS Pocket is suitable for day-to-day verification, maintenance and troubleshooting of mobile networks but is also handy for many cell planning tasks.

1.1. What's New in TEMS Pocket T68i?

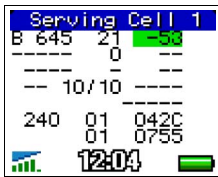
TEMS Pocket T68i is the successor to TEMS Pocket R520m. It is equipped with the following novelties:

- Support of 4+1 timeslots
- WAP browser data view, showing information about the current cell and channel used while the WAP browser is active
- C/I measurements on broadcast and traffic channels
- Resizable data view font facilitating use in poor light
- Color-coded bars improving readability for many important parameters
- New GPRS information:
 - Cell configuration parameters
 - Active PDP Context information
- New events:
 - Disconnect (abnormal) with cause value
 - T200 timeout
 - T3168/T3170 timeout

2. Overview


2.1. Data Views


Most of the data displayed by TEMS Pocket is to be found in *data views*. When you turn the phone on the first time it will display the Serving Cell data view.




On later occasions, when turned on, the mobile will display the data view last inspected, provided that the Pocket functions are activated. You browse the data views by moving the joystick up and down.

The bottom section of the display preserves the ordinary T68i indicators showing signal strength, current time, and battery power level. Above the signal strength bars, GPRS availability is indicated by the following means:

 If nothing is drawn above the bars, the mobile has no GPRS coverage, or the subscription does not support GPRS (the mobile attempted GPRS attach but failed).

 A blue contour indicates that there is GPRS coverage, but the mobile has not yet attempted to attach to GPRS.

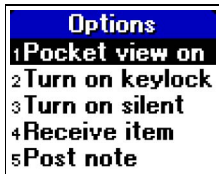
 A solid blue triangle indicates that the mobile has successfully attached to GPRS.

If the default T68i display with the operator's name appears instead, this is because the Pocket functions are turned off:



To turn Pocket on,

- Press the Options button briefly.



- Press YES.

The data views are fully described in chapter 3.

2.2. Menus

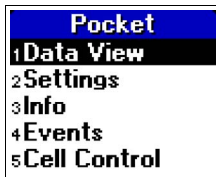
The TEMS Pocket T68i phone has a special Pocket menu from which you change settings in TEMS Pocket. The Pocket menu is also used to access certain categories of data (sometimes there is also a shortcut).

To access the Pocket menu,

- Move the joystick left twice and then up once. The Settings icon is selected:



- Press YES, YES to enter the Pocket main menu.



The submenus seen here are described in chapter 4.

2.3. Note on TEMS Realtime Tools

TEMS mobiles delivered with the realtime diagnostics tools TEMS Investigation and TEMS Light have full TEMS Pocket functionality. When such mobiles are connected to one of the realtime tools, you can still inspect their TEMS Pocket data views (chapter 3). You can also inspect the event log, by accessing it from a data view through the Quick menu (section 3.16).

However, while TEMS Pocket is connected to a realtime tool, you cannot use the TEMS Pocket network control functions or change network settings (sections 4.5–4.8 in this manual). All such functions are disabled as long as the phone is connected.

3. Data Views

3.1. General

All data views have the same general structure in idle and dedicated mode. When a parameter is currently not valid (such as C1 and C2 in dedicated mode), this is indicated in the data view by a string of dashes “-” of appropriate length. In a few places one parameter is replaced by another when the mode changes. These differences are of course noted in the subsequent sections.

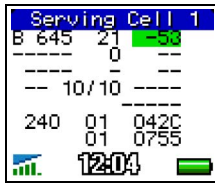
Certain parameters are presented both numerically and graphically, the number being superimposed on a colored bar whose length and color depend on the parameter value. These parameters are tagged “numeric/graphic” in sections 3.3–3.14. The rules for the graphic presentation are found in appendix B, page 57.

Tip: To improve the appearance of the colors, you may find it helpful to adjust the display contrast (Settings menu → Display → Contrast).

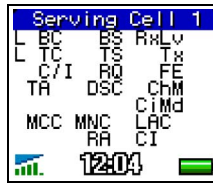
In the case of frequency hopping, the hopping list is shown one channel at a time, a new channel appearing each second (e.g. **TC** in the Serving Cell view, section 3.3).

3.2. The Built-in Help Function

For all data views a corresponding help view is available. Each help view has the same organization as the data view but displays mnemonics for the parameters where the data view displays the parameters themselves:



Data view



Help view

In this chapter, data views and help views are shown side by side, and the view contents are explained by referring to the mnemonics in the help view.

To enter the help view,

- Press the Options key briefly. The Options menu appears. Choose **Pocket view help** (most easily done by pressing the “4” key).

To return to the data view,

- Press the Clear key briefly. (Alternatively, press Options and then “4” once again.)

3.3. Serving Cell (1)

Idle mode

Dedicated mode

Help view
(idle mode)

The top part describes the broadcast and traffic channels used and the channel quality.

L: Logical Channel

Line 1:

- **B:** BCCH

Line 2: One of

- **T:** TCH
- **t:** Hopping TCH
- **S:** SDCCH
- **s:** Hopping SDCCH
- **P:** PBCCH
- **p:** Hopping PBCCH
- **D:** PDTCH
- **d:** Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN). Hopping channels are shown one at a time; see section 3.1.

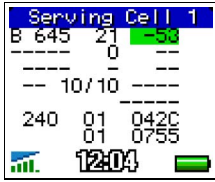
TS: Timeslot Number

Tx: Transmit Power, numeric/graphic

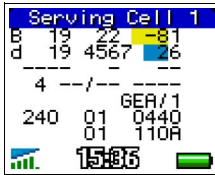
C/I: Carrier-to-interference ratio in dB. *In dedicated mode:* C/I for the traffic channel currently indicated by **L** on line 2. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; cf. section 3.1. *In idle mode:* C/I for the BCCH indicated by **L** on line 1.

Numeric/graphic presentation.

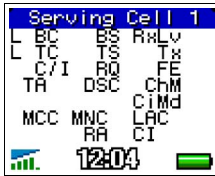
C/I is supported for the modes BCCH, TCH/F, TCH/H, TCH/M, and PDTCH.



Idle mode



Dedicated mode



Help view
(idle mode)

RQ: Receive Bit Error Rate (RxQual),
numeric/graphic

FE: Frame Erasure Rate (FER), numeric/graphic

TA: Timing Advance

DSC (idle mode): Downlink Signalling Counter
(Current/Max). In dedicated mode, DSC is replaced
by **RLT**, Radio Link Timeout (Current/Max).

ChM: Channel Mode; same as in section 3.8

ChMd: Ciphering Mode; same as in section 3.8

The bottom part describes the CGI (Cell Global
Identity) and RAC (Routing Area Code) of the
serving cell.

MCC: Mobile Country Code

MNC: Mobile Network Code

LAC: Location Area Code

RA: Routing Area Code

CI: Cell Identity

3.4. Neighbor List (2)

BSIC	RxLev
6400	25
10	22
579	21
20	20
350	20
38	24

Presents the BSIC and signal strength (RxLev) of the serving cell and the six strongest cells in the neighbor list.

L: Logical Channel

- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

L	BSIC	RxLev
BC	6400	RxL
NC1	10	RxL
NC2	579	RxL
NC3	20	RxL
NC4	350	RxL
NC5	38	RxL
NC6	BS	RxL

BC: Serving Cell BCCH ARFCN

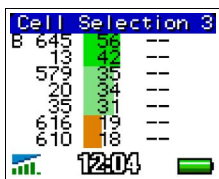
NC1 ... NC6: Neighbor Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/graphic

You can lock on a cell that is listed in this view; see section 3.16.

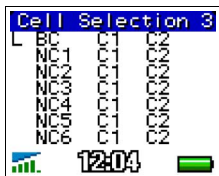
3.5. Cell Selection (3)



Presents the path loss (C1) and reselection (C2) parameters for the serving cell and the six strongest cells in the neighbor list.

L: Logical Channel

- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH



BC: Serving Cell BCCH ARFCN

NC1 ... NC6: Neighbor Cell BCCH ARFCN

C1: Path Loss Criterion, numeric/graphic

C2: Cell Reselection Criterion, numeric/graphic

You can lock on a cell that is listed in this view; see section 3.16.

3.6. GPRS Cell Selection (4)

GPRS Cell Sel 4			
B	640	0	0
1	57	0	0
2	33	0	0
3	62	0	0
4	61	0	0
5	610	0	0
6	10	0	0
		18	18

Presents the C31 and C32 parameters for the serving cell and the six strongest cells in the neighbor list.

L: Logical Channel

- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

GPRS Cell Sel 4			
L	BC	RC	1C31
	NC1	RC	1C31
	NC2	RC	1C31
	NC3	RC	1C31
	NC4	RC	1C31
	NC5	RC	1C31
	NC6	RC	31C32

BC: Serving Cell BCCH ARFCN

NC1 ... NC6: Neighbor Cell BCCH ARFCN

R: Routing Area Color, RACo

C31: C31, GPRS signal strength threshold criterion, numeric/graphic

C32: C32, GPRS cell ranking criterion, numeric/graphic

Note: C31 and C32 are calculated only in PBCCH-enabled networks.

You can lock on a cell that is listed in this view; see section 3.16.

3.7. Cell Identity (5)

LAC	CI	RxLv
0420	0755	95
0420	0FA7	90
0420	03EF	76
0420	1190	76
0420	0FA8	79
0420	03F0	92
042C	05D8	92

12:04

Presents the LAC, CI, and RxLv of the serving cell and the six strongest cells in the neighbor list.

LAC: Location Area Code

CI: Cell Identity

RxLv: Received Signal Strength (RxLv), numeric/graphic

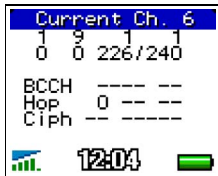
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv
LAC	CI	RxLv

12:04

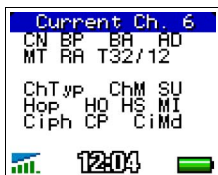
You can lock on a cell that is listed in this view; see section 3.16.

3.8. Current Channel (6)

3.8.1. Idle Mode



Idle mode



The parameters in the top part are shown in idle mode.

CN: CCCH configuration, number of BCCH/CCCH timeslots {0–6}; see appendix A.3, page 50

BP: BS-PA-MFRMS, number of multiframes between paging subgroups {2–9}

BA: BS-AG-BLKS-RES, number of CCCH blocks reserved for AGCH {0–7}

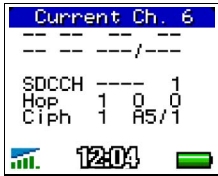
AD: Attach/Detach enabled {0: No, 1: Yes}; see appendix A.4, page 50

MT: MS-TXPWR-MAX-CCH, maximum RACH power in dBm {900: 5–39, 1800: 0–36}

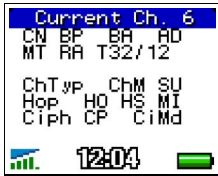
RA: RXLEV-ACCESS-MIN, minimum RxLev required for accessing the cell {0–63}

T32/12: T3212, current time/max time between location updates {Off, 0–1530 minutes}

3.8.2. Dedicated Mode



Dedicated mode



The parameters in the bottom part are shown in dedicated mode. They relate to channel type, frequency hopping, and ciphering.

ChTyp: Channel type, one of {BCCH, PBCCH, PDTCH, SDCCH, TCH/F, TCH/H}; see appendix A.5, page 51

ChM: Channel mode, one of {FR, EFR, HR, D24, D48, D96, D144}. FR = Speech, Full Rate, etc.; D24 = Data 2.4 kbit/s, etc.

SU: Subchannel Number {0–7}

HO: Frequency Hopping On/Off {0: Off, 1: On; see appendix A.7, page 51}

HS: Hopping Sequence Number {0–63}

MI: MAIO, Mobile Allocation Index Offset {0–63}

CP: Ciphering On/Off {0: Off, 1: On}; see appendix A.8, page 51

CiMd: Ciphering Mode, one of {A5/1, A5/2, GEA/1, GEA/2}

3.9. Paging & RACH (7)



3.9.1. Paging

Lines 1–3 show information on the currently used Paging Channel and other paging parameters.

Mobile Paging Subgroup (CG, PM, RB):

CG: CCCH Group, used CCCH timeslot {0, 2, 4, 6}

PM: Paging Multiframe Group {0–8}

PB: Paging Block Index {0–8}

TMSI: Temporary Mobile Subscriber Identity (hex); not valid when Ignore TMSI is active (section 4.5.8, page 33)

PTMSI: Packet TMSI (hex); not valid when the mobile is not GPRS attached, or when Ignore TMSI is active (section 4.5.8, page 33)

3.9.2. RACH

Lines 4–5 show information on the Random Access Channel.

CB: Cell Barred {0: No, 1: Yes}

RE: Call Re-establishment {0: Allowed, 1: Not allowed}

RM: Max number of retransmissions {1, 2, 4, 7}

RN: Number of RACH bursts sent for the last connection {1–7}

RB: Establishment Cause/Random: Reference used in the latest RACH burst {00–FF}

H: Latest GPRS Access Type: 1 phase or 2 phase access {1, 2, –}

BU: GPRS Access Burst Type: 8 bit or 11 bit bursts {8, 11, –}

3.10. CA List (8)



Shows the frequencies used by the current cell. The list holds a maximum of 64 entries.

- To scroll the list, press the Clear key (C) briefly (or press the joystick) to enter scroll mode. The top row is highlighted. Then move the joystick up and down to scroll. Press Clear again to exit scroll mode.



3.11. BA List (9)

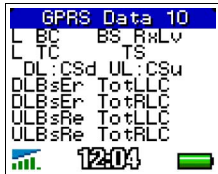
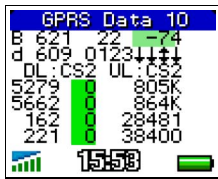


Shows all neighbors of the current cell. The list holds a maximum of 64 entries.

- To scroll the list, press the Clear key (C) briefly (or press the joystick) to enter scroll mode. The top row is highlighted. Then move the joystick up and down to scroll. Press Clear again to exit scroll mode.



3.12. GPRS Data (10)



3.12.1. The GPRS Connection

Line 1 repeats some basic information. Lines 2–3 show data on the GPRS connection.

L: Logical Channel

Line 1: B for BCCH

Line 2: One of

- T: TCH
- t: Hopping TCH
- S: SDCCH
- s: Hopping SDCCH
- P: PBCCH
- p: Hopping PBCCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

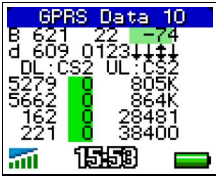
RxLv: Received Signal Strength (RxLev), numeric/graphic

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN)

TS: Timeslots used on uplink and downlink. The timeslots are represented by the numbers 0–7, and those currently in use are replaced by arrows as follows:

- Upward arrow: Timeslot used on uplink
- Downward arrow: Timeslot used on downlink
- Double-headed arrow: Bidirectional timeslot used on both uplink and downlink

Example: **01234↓↑↑** means that TS 5 and 7 are being used on the downlink and TS 6 on both uplink and downlink.



DL:CSd: Channel coding scheme on downlink {1-4}

UL:CSu: Channel coding scheme on uplink {1-4}

3.12.2. GPRS Performance and Performance Statistics

Lines 4-7 report the current performance of and some statistics on the GPRS data transfer.

Line 4: LLC protocol level, downlink

Line 5: RLC protocol level, downlink

Line 6: LLC protocol level, uplink

Line 7: RLC protocol level, uplink

Bs: Instantaneous data transfer rate in bytes/s

Er: Percentage of data blocks erroneously decoded (on downlink), numeric/graphic

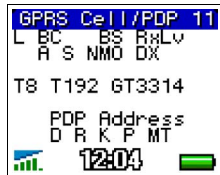
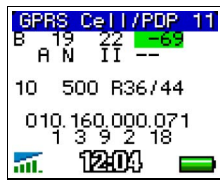
Re: Percentage of data blocks resent (on uplink), numeric/graphic

TotLLC: Total number of bytes transferred at the LLC level (K = kilobytes, M = megabytes)

TotRLC: Total number of bytes transferred at the RLC level (K = kilobytes, M = megabytes)

The **TotLLC** and **TotRLC** counters can be reset from the Quick menu: see section 3.16.

3.13. GPRS Cell/PDP (11)



3.13.1. GPRS Cell Configuration

Line 1 repeats some basic information. Lines 2–4 show data on the configuration of the GPRS cell.

L: Logical Channel

- **B:** BCCH
- **P:** PBCCH, p: Hopping PBCCH
- **S:** SDCCH, s: Hopping SDCCH
- **T:** TCH, t: Hopping TCH
- **D:** PDTCH, d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxLv: Received Signal Strength (RxLev), numeric/graphic

A: GPRS Attached {A: Attached, -: Not attached}

S: System Information 13 position {N: Normal BCCH, E: Extended BCCH, -: Not present}

NMO: Network Mode of Operation {I, II, III}; see appendix A.10, page 52

Dx: DRX Timer Max, see GSM 04.60, sec. 5.5.1.5

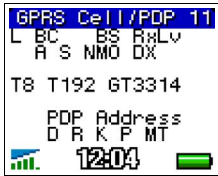
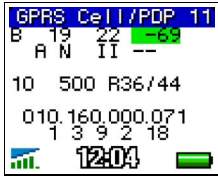
T8: T3168 timer start value (Packet Uplink Assignment Timer), see GSM 04.60, sec. 13.1 {value in hundreds of milliseconds, assigned in system information}

T192: T3192 timer start value (Packet Final Block Timer), see GSM 04.60, sec. 13.1 {value in ms, assigned in system information}

G: GMM State {-: No GPRS available, I: Idle, R: Ready, S: Standby}

T3314: T3314 timer start value (GMM Ready Timer), Current/Start; see GSM 04.08, sec. 4.7.2

PDP Address: IPv4 PDP address (12-digit number)



3.13.2. PDP Context Request

See GSM 04.08, sec. 10.5.6.5.

D: Delay Class {0–4}

R: Reliability Class {0–5}

K: Peak Throughput {0–9}

P: Precedence Class {0–3}

MT: Mean Throughput {0–18, 31}

For meanings of values, see below.

Delay Class

- 0: Subscribed
- 1: Delay class 1
- 2: Delay class 2
- 3: Delay class 3
- 4: Delay class 4 (best effort)

Reliability Class

- 0: Subscribed
- 1: Acknowledged GTP, LLC, and RLC; Protected data
- 2: Unacknowledged GTP; Acknowledged LLC and RLC, Protected data
- 3: Unacknowledged GTP and LLC; Acknowledged RLC, Protected data
- 4: Unacknowledged GTP, LLC, and RLC, Protected data
- 5: Unacknowledged GTP, LLC, and RLC, Unprotected data

Peak Throughput

- 0: Subscribed
- 1: Up to 1 000 octet/s
- 2: Up to 2 000 octet/s
- 3: Up to 4 000 octet/s
- 4: Up to 8 000 octet/s
- 5: Up to 16 000 octet/s
- 6: Up to 32 000 octet/s
- 7: Up to 64 000 octet/s
- 8: Up to 128 000 octet/s
- 9: Up to 256 000 octet/s

Precedence Class

- 0: Subscribed
- 1: High priority
- 2: Normal priority
- 3: Low priority

Mean Throughput

- 0: Subscribed
- 1: 100 octet/h
- 2: 200 octet/h
- 3: 500 octet/h
- 4: 1 000 octet/h
- 5: 2 000 octet/h
- 6: 5 000 octet/h
- 7: 10 000 octet/h
- 8: 20 000 octet/h
- 9: 50 000 octet/h
- 10: 100 000 octet/h
- 11: 200 000 octet/h
- 12: 500 000 octet/h
- 13: 1 000 000 octet/h
- 14: 2 000 000 octet/h
- 15: 5 000 000 octet/h
- 16: 10 000 000 octet/h
- 17: 20 000 000 octet/h
- 18: 50 000 000 octet/h
- 31: Best effort

data view can be controlled from the Options menu when accessed from the WAP browser (press the Options key).

3.16. The Quick Menu

This is a special menu that is accessed from the data views. It provides a shortcut to some often-used operations, most of which are also available from the ordinary menus (chapter 4):

3.16.1. Quick Menu in Idle Mode

In idle mode the Quick menu contains the following:

- Lock on channel (current serving cell, or neighbor cell: see below). This is equivalent to Lock ARFCN (section 4.8.2) in idle mode and Force HO (section 4.8.3) in dedicated mode.
- Toggle logging and sound on/off (see section 4.7.3).
- View the event log (see section 4.7.1).
- Reset GPRS data transfer counters (see section 4.5.10).

The method of accessing the Quick menu and the range of cells you can lock on are different in different data views:

3.16.1.1. Accessing the Quick Menu from Neighbor List Data Views

In the data views containing a neighbor list (nos. 2–5, sections 3.4–3.7), you can lock on one of the shown neighbors or on the serving cell.

- Press the joystick (or press Clear briefly) to enter scroll mode.
- If you want to lock on a cell, scroll to that cell.
- Press YES.



- **Lock:** Lock on the selected cell.
- **Event Mode:** Modify sound and logging settings.
- **View Log:** View the event log.
- **Reset Data Counters:** Reset the GPRS data transfer counters.

To release the mobile,

- In the data view, scroll to the top row (serving cell).
- Press YES.



- Choose **Unlock ARFCN**.

3.16.1.2. Accessing the Quick Menu from Other Data Views

In the remaining data views, you can only lock on the serving cell.

- Press the joystick (or press Clear briefly).
- If the text size is set to medium or large (see section 4.5.1, page 30), press the joystick again.



- **Lock:** Lock on the selected cell.
- **Event Mode:** Modify sound and logging settings.
- **View Log:** View the event log.
- **Reset Data Counters:** Reset the GPRS data transfer counters.

To release the mobile,

- Press the joystick (or press Clear briefly).
- If the text size is set to medium or large, press the joystick again.



- Choose **Unlock ARFCN**.

3.16.2. Quick Menu in Dedicated Mode

In dedicated mode the Quick menu contains the following:

- Disable handover (see section 4.8.4, page 43).
- Toggle logging and sound on/off (see section 4.7.3, page 35).
- Configure Multiband Reporting (see section 4.8.6, page 44).
- View the event log (see section 4.7.1, page 35).
- Reset GPRS data transfer counters (see section 4.5.10, page 33).

3.16.2.1. Accessing the Quick Menu in Dedicated Mode

In dedicated mode the Quick menu functions are the same in all data views. How to access the menu, however, still depends on the view and the text size:

- If you are in a neighbor list data view (nos. 2–5), or if the text size is set to medium or large, press the joystick twice;
- otherwise, press the joystick once.



- **Disable HO:** Disable handover.
- **Event Mode:** Modify sound and logging settings.
- **Multiband:** Modify Multiband Reporting.
- **View Log:** View the event log.
- **Reset Data Counters:** Reset the GPRS data transfer counters.

When you have chosen Disable HO, it is replaced by Enable HO in the menu. Choose this command to re-enable handovers.

4. Menu

4.1. General

The menus have the following main uses:

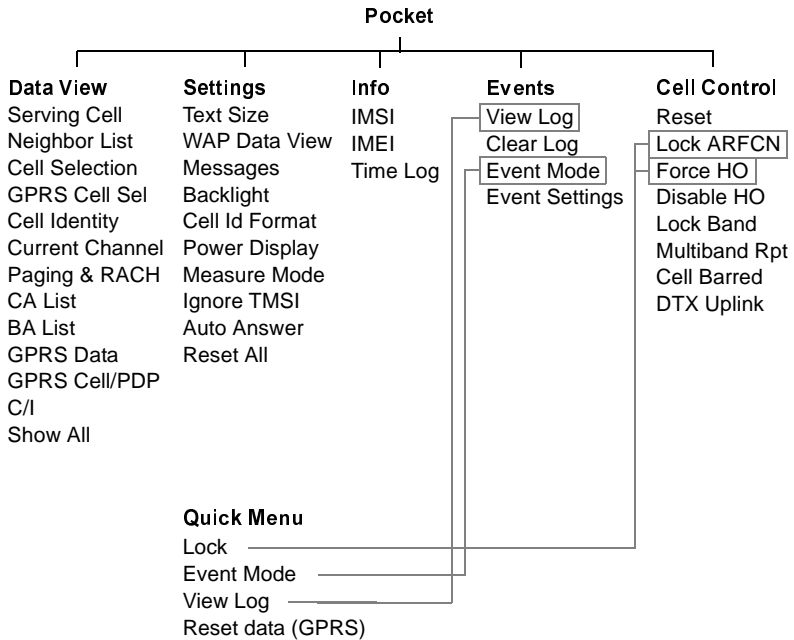
- **Data View** menu: Choosing or hiding data views
- **Settings** menu: Adjustment of miscellaneous settings (e.g. measurement units)
- **Info** menu: Inspection of phone and SIM identities and phone usage statistics
- **Events** menu: Viewing of event setup and event log
- **Cell Control** menu: Control of mobile behavior in the network (cell reselection, handover, band, etc.)

In addition, there is the **Quick** menu (section 3.16, page 23), which is accessible from the data views and provides quick access to often-used functions.

In general, the settings made in the menus are in force until you alter them again or give the Reset All command (section 4.5.10, page 33). The Cell Control settings are an exception; they revert to their defaults when the mobile is turned off.

4.2. Pocket Menu Overview

All details in sections 4.5–4.8 below. How to access the Pocket menu was described in section 2.2.



4.3. Navigating in the Menus

The handset controls have the following functions for entering menus and navigating in the menus:

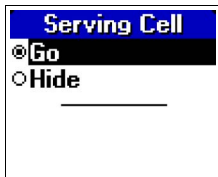
Joystick left/right	<ul style="list-style-type: none"> • <i>When not in menu mode:</i> Browse top-level menus in the T68i. • <i>In some dialogs:</i> Move cursor when entering a number.
Joystick up/down	<ul style="list-style-type: none"> • <i>When not in menu mode:</i> Browse top-level menus in the T68i. • <i>In a menu:</i> Scroll through a menu. • <i>In some dialogs:</i> Scroll through the list of choices.
Press joystick/ YES key	<ul style="list-style-type: none"> • <i>In a menu:</i> Enter a submenu or dialog. • <i>In a dialog:</i> Confirm the selected option or entered input, and exit the dialog.
NO key	<ul style="list-style-type: none"> • <i>In a menu:</i> Exit the menu. • <i>In a dialog:</i> Exit the dialog without changing anything.
Options key (pressed briefly)	<ul style="list-style-type: none"> • <i>When not in menu mode:</i> Enter the Options menu (containing some Pocket functions).
Clear (C) key (pressed briefly)	<ul style="list-style-type: none"> • <i>When not in menu mode:</i> Enter the Quick menu. • <i>In some dialogs:</i> Delete a digit when entering a number.
0–9 keys	<ul style="list-style-type: none"> • <i>In a menu:</i> Select the menu item labeled with the indicated number. • <i>In some dialogs:</i> Enter numerical values.

4.4. Data View Menu

In this menu you can choose a data view to display, and control the visibility of each data view.

4.4.1. Menu Items for Individual Data Views

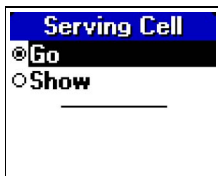
For each data view there exists this dialog:



Go: Exit menu mode and immediately display the data view in question.

Hide: This setting causes the view to be skipped when you scroll the data view sequence.

For a hidden data view the dialog looks like this:



Go: Exit menu mode and display the data view. Note that in this case the view is still regarded as hidden and is shown only temporarily: if you scroll to a different view, and then scroll back, the hidden view will still be skipped. To make the view permanently visible again you must choose Show in this menu (see below).

Show: Make the hidden view visible.

4.4.2. Show All

This command unhides any data views that you have hidden.

4.5. Settings Menu

In this menu you specify various aspects of TEMS Pocket behavior and of the data presentation:

- Text size
- Visibility of WAP data view

- Displaying of messages
- Display backlight on/off
- LAC and CI: Decimal or hexadecimal format
- Power unit: GSM units or dBm (RxLev, TxPower)
- Full/Sub values (RxLev, RxQual, FER)
- Use of IMSI/TMSI
- Auto answer

4.5.1. Text Size

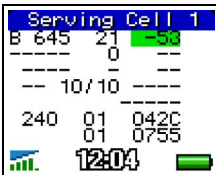
Data views can have three different font sizes.



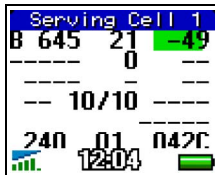
Small: Characters are 7 pixels high. The whole data view fits into the display (except CA List and BA List if they are long enough).

Medium: Characters are 9 pixels high. Scrolling needed.

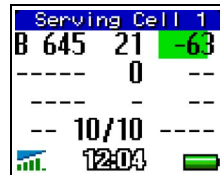
Large: Characters are 11 pixels high. Scrolling needed.



Small



Medium

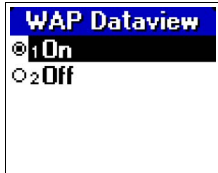


Large

- To scroll a view with medium or large font, press the joystick (or press Clear briefly) to enter scroll mode, then move the joystick up and down as usual in order to scroll.
- To exit scroll mode, press the No key.

4.5.2. WAP Data View

When you are running WAP services you can have a two-line data view displayed at the bottom of the WAP browser. See section 3.15, page 22.



Choosing **On** activates the WAP data view.

Alternatively, the visibility of the WAP browser data view can be controlled from the Options menu when accessed from the WAP browser (press the Options key and choose **WAP View On/WAP View Off**).

About preparing your phone for WAP and getting started using the service, please consult your T68i user manual.

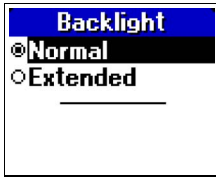
4.5.3. Messages



If **On** is chosen, messages such as those generated by divert or calling line identification will be displayed.

If **Off** is chosen, these kinds of messages will not be displayed and so will not conceal the Pocket data views.

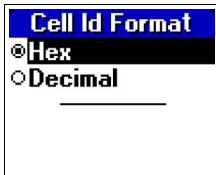
4.5.4. Backlight



Normal: The display backlight is turned off after about 25 seconds of inactivity.

Extended: The display backlight remains on for 20 minutes even if there is no user input. For this choice to be enabled, automatic keylock must be turned off.

4.5.5. Cell Id Format



Hex: LAC and CI are displayed in hexadecimal digits.

Decimal: LAC and CI are displayed in decimal digits.

4.5.6. Power Display

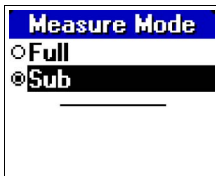


dBm: RxLev and TxPower are displayed in dBm.

GSM: RxLev and TxPower are displayed in GSM units.

About color coding and bar length, see appendix B, page 57.

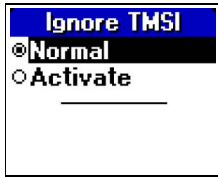
4.5.7. Measure Mode



Full: RxLev, RxQual, and FER are presented in the form of Full values.

Sub: RxLev, RxQual, and FER are presented in the form of Sub values.

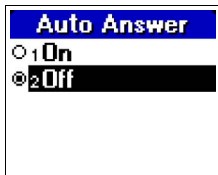
4.5.8. Ignore TMSI



Normal: The mobile station is allowed to use TMSI.

Activate: The mobile station is forced to use IMSI.

4.5.9. Auto Answer



If **On** is chosen, the mobile will automatically answer an incoming call.

4.5.10. Reset All

This command restores all Pocket settings to their defaults. See appendix C, page 60 for a listing of the default settings. The GPRS data transfer counters and the event log are not affected by the reset.

4.6. Info Menu

4.6.1. IMSI

IMSI 240-01- 5006069336
--

Shows the IMSI (International Mobile Station Identity) of the SIM card used. It is made up of

- Country Code (3 digits)
- Network Code (2 digits)
- Identification Number (at most 10 digits)

4.6.2. IMEI

IMEI 350324-71- 278720-9

Shows the IMEI (International Mobile Equipment Identity) of the mobile station used. It is made up of

- Type Approval Code (6 digits)
- Final Assembly Code (2 digits)
- Serial Number (6+1 digits)

4.6.3. Time Log

Dedic	00:00
Idle Full	00:16
Idle Ltd	00:00
No Service	00:05

Shows the time (in hours and minutes) that the mobile station has spent in each of the following modes:

- Dedicated mode
- Idle mode, Full Service
- Idle mode, Limited Service (SOS calls only)
- No Service

Press YES, YES to reset the time log.

4.7. Events Menu

A maximum of 20 events can be stored in the event log. Once the log is full, the oldest log entry is removed whenever a new event is entered.

Events can also be indicated by audio signals. You can turn sound and logging on and off for each event type separately: see section 4.7.4.

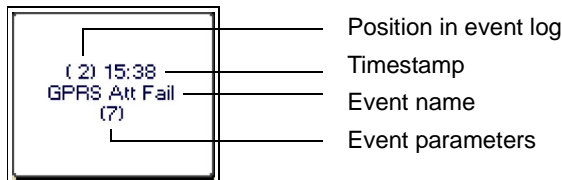
The event log can be cleared by giving the Reset All command from the Settings menu; see section 4.5.10.

Note: To have events logged at all, you must make sure that the event mode is set to “On”. See section 4.7.3.

4.7.1. View Log

To view the event log,

- In the Event menu, choose View Log. The most recent logged event is shown. Use the Up and Down keys to browse the log.



New events are added at the end of the list, so the latest event will always have the highest number.

4.7.2. Clear Log

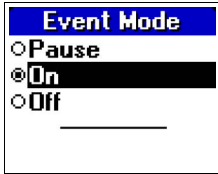
To clear the event log,

- In the Event menu, choose Clear Log. Press YES to confirm.

4.7.3. Event Mode

If you want TEMS Pocket to log events, you must make sure that the event mode is set to “On”:

- In the Events menu, choose Event Mode.
- Choose On.



The three modes have the following meanings:

Pause: No logging but sound indications for chosen events

On: Logging and sound indications

Off: No logging and no sound indications

About the sounds, see section 4.7.6.

4.7.4. Event Settings

For each event type, you can turn audio indications and logging on and off.

- Choose Event Settings.



- Choose an event type to specify audio and logging properties for this event (the types are listed and described in section 4.7.5 below)
or
- Choose Set All to specify the same behavior for all events. The following options exist:



Off: No sound, no logging

Sound: Sound, but no logging

Log: Logging, but no sound

Sound + Log: Sound and logging

For the Limit events (RxLev Limit, RxQual Limit, TA Limit, TxPwr Limit), once you have chosen something other than Off, you will be asked to enter the event threshold:

A screenshot of a mobile phone menu titled "RxLev Limit". The title is in a blue header bar. Below the header, the number "0" is displayed in a large font, indicating the current threshold value. The rest of the screen is blank.

- Enter a threshold value. Note that the value must be in GSM units.

4.7.5. List of Logged Events

This section lists all the events saved in the event log and their parameters. Some of the event parameters are described in more detail in the Appendix starting on page 49.

Event group designations are as follows: N = Normal, F = Fail, L = Limit.

The table also lists defaults for the settings described in section 4.7.4.

4.7.5.1. GSM Events

G = Event group; Def = Default event settings (S = Sound, L = Logging)

Event name	G	Def	Parameters
Assign Compl (Assignment Complete)	N	Off	Channel Mode (appendix A.6, page 51), ARFCN, TS, subchannel number (if SDCCH)
Assign Fail (Assignment Failure)	F	S+L	Radio Resource Cause (appendix A.2, page 50)
Cell Reselect (Cell Reselection)	N	Off	New ARFCN, BSIC
Disconnect	F	S+L	Disconnect Cause (appendix A.11, page 52); note that normal disconnects with cause 31 ("Normal, unspecified") are <i>not</i> logged
HO Complete (Handover Complete)	N	Off	BCCH ARFCN, TCH ARFCN, TS, subchannel number (if SDCCH)
HO Failure (Handover Failure)	F	S+L	Radio Resource Cause (appendix A.2, page 50)
IA Complete (Immediate Assignment, Immediate Assignment Extended)	N	Off	Channel Mode (appendix A.6, page 51), ARFCN, TS, subchannel number (if SDCCH)
IA Reject (Immediate Assignment Reject)	F	S+L	Page Mode (appendix A.9, page 51), T3122 (timer value in seconds)
Loc Upd Acc (Location Update Accept)	N	Off	New LAC, Old LAC
Loc Upd Rej (Location Update Reject)	F	S+L	Reject Cause (appendix A.1, page 49)
RL Timeout (Radio Link Timeout)	F	S+L	BCCH ARFCN, BSIC

Event name	G	Def	Parameters
RxLev Limit (Received Signal Strength Limit)	L	Off	Measured RxLev, RxLev Limit
RxQual Limit (Received Signal Quality Limit)	L	Off	Measured RxQual, RxQual Limit
Service	L	S+L	On, Selected BCCH ARFCN or Off, Latest BCCH ARFCN
TA Limit (Timing Advance Limit)	L	Off	Measured TA, TA Limit
TxPwr Limit (Transmit Power Limit)	L	Off	Measured TxPwr, TxPwr Limit
T200 Timeout (Layer 2 Timeout)	F	S+L	None
T3124 Timeout (HO Fail Timeout)	F	S+L	Target BCCH ARFCN, BSIC and number of HO Access
T3126 Timeout (Channel Request Timeout)	F	S+L	BCCH ARFCN, BSIC, number of channel requests

4.7.5.2. GPRS Events

Event name	G	Def	Parameters
GPRS Att Acc (GPRS Attach Accept)	N	Off	GPRS(1)/Combined(2)/Reserved(other), RAC
GPRS Att Fail (GPRS Attach Fail)	F	S+L	GPRS Attach Fail Cause (appendix A.12, page 54)
GPRS Detach (GPRS Detach)	F	S+L	GPRS Detach Type (appendix A.13, page 54), GPRS Detach Cause (appendix A.14, page 55)

Event name	G	Def	Parameters
PDP Ctx Acc (Activate PDP Context Accept)	N	S+L	NSAPI, PDP Address
PDP Ctx Fail (Activate PDP Context Fail)	F	S+L	NSAPI, Activate PDP Context Fail Cause (appendix A.15, page 55)
Deact PDP Ctx (Deactivate PDP Context)	F	S+L	NW/MS, NSAPI, Deactivate PDP Context Cause (appendix A.16, page 55)
RA Update Acc (Routing Area Update Accept)	N	Off	New RAC, Old RAC
RA Update Fail (Routing Area Update Fail)	F	S+L	Routing Area Update Fail Cause (appendix A.17, page 56)
T3168 Timeout (Packet Uplink Assignment Timeout)	F	S+L	None
T3170 Timeout (Packet Channel Request Timeout)	F	S+L	None

4.7.6. Event Sounds

The sounds associated with events are as follows:

- **Normal** group: One short beep.
- **Limit** group: A two-note sequence with either rising or falling pitch.
 - For the Service event, rising pitch indicates “Service On”, and falling pitch indicates “Service Off”.
 - For other Limit events, rising pitch indicates that the event parameter exceeded the limit (or dropped below it). Falling pitch indicates that the parameter reverted to a value that is within the limit.
- **Fail** group: A two-note sequence with falling pitch (different notes than for Limit events).

4.8. Cell Control Menu

In this menu are collected the functions that modify mobile station behavior in the network.

4.8.1. Reset

Any changes made from the default in the Cell Control menu can be undone by using the Reset command. Reset does not affect the settings in the Settings and Events menus.

- In the Cell Control menu, choose Reset and press YES to confirm.

If you have not changed anything, the Reset choice is disabled and grayed.

4.8.2. Lock ARFCN

This function locks the mobile station on a cell which then becomes the serving cell, provided that the signal strength is sufficient. If the signal is too weak, the mobile will go into no service mode.



- Choose **Set ARFCN** to lock on a cell. You will be asked to enter an ARFCN number. This ARFCN will then appear in the menu instead of "Set ARFCN".



Here the mobile has been locked on ARFCN 14.

- Choose **Off** to release the mobile.

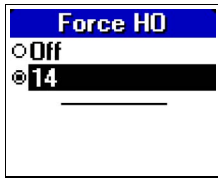
Note that you can also lock on a cell (only the current serving cell, or a neighbor) from a data view. This is done by entering the Quick menu: see section 3.16, page 23.

4.8.3. Force HO

The mobile can be forced to perform a handover to a selected channel, provided that the cell is close and strong enough. The Force HO option overrides normal handover as well as Disable HO (section 4.8.4). Note that the effect of Force HO persists until it is deselected: if Force HO is chosen during a call, the handover behavior will not revert to normal when the call is ended.



- Choose **Set ARFCN** to force handover to a channel. You will be asked to enter an ARFCN number. The chosen ARFCN will then appear in the menu instead of "Set ARFCN".

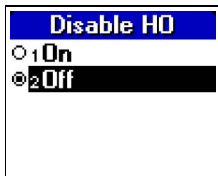


Here handover has been forced to ARFCN 14.

- Choose **Off** to release the mobile.

4.8.4. Disable HO

You can prevent the mobile station from performing handovers.



On: The mobile will perform no handovers.

Off: The mobile will perform handovers when ordered to do so by the network.

Note: If you use Force HO (section 4.8.3, below) to force handover to a selected channel, it will override Disable HO.

4.8.5. Lock Band

You can order the mobile station to use only one of its frequency bands. This will naturally result in failed calls if the band you have blocked is the only one available in the area.



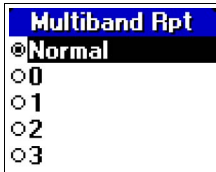
Normal: No restriction.

900 only, 1800 only, 1900 only: The mobile is locked to the indicated band.

Note: If locked to a band during a call, the mobile will not change to the selected band immediately. At the next handover, however, it will be redirected to a cell using a channel in the selected band.

4.8.6. Multiband Rpt (Multiband Reporting)

The Measurement Reports sent by the mobile station to the network include data on cells in the band which the mobile is currently not using. The Multiband Rpt function in TEMS Pocket controls the Multiband Reporting value, which determines how many cells from the other band (at most three) should be included in the Measurement Report.



(Below, "band A" denotes the mobile's own band, and "band B" is the other band.)

Normal: The network controls the Multiband Reporting parameter.

0: The mobile reports the strongest cells, irrespective of band.

1: The mobile reports the strongest cell from band B, and the remaining positions are filled with cells from band A.

2: The mobile reports the two strongest cells from band B, and the remaining positions are filled with cells from band A.

3: The mobile reports the three strongest cells from band B, and the remaining positions are filled with cells from band A.

The remaining positions in the Measurement Report are then filled with cells from the same band as the serving cell (band A). Should there not be enough of these to complete the report, more cells are picked from band B in order of descending signal strength, if available.

Example

The Multiband Rpt parameter has been set to 3, the mobile is on the 900 band, and only two cells are currently identified on the 1800 band. These two cells are then put in the report, and four 900 band neighbors are added, provided of course that at least four neighbors are identified on the 900 band.

4.8.7. Cell Barred

This function governs whether the mobile station is allowed to access a barred cell.

The screenshot shows a menu titled "Cell Barred" with a blue header. Below the header, there are three radio button options: "Normal" (which is selected), "May Use", and "Must Use". A horizontal line is visible below the "Must Use" option.

Normal: The mobile station will make no attempt to access barred cells.

May Use: The mobile station is allowed to camp on barred cells.

Must Use: The mobile station will use barred cells only.

4.8.8. DTX Uplink

You can control the mobile's use of DTX (Discontinuous Transmission).

The screenshot shows a menu titled "DTX Uplink" with a blue header. Below the header, there are three radio button options: "Normal" (which is selected), "On", and "Off". A horizontal line is visible below the "Off" option.

On: The mobile always uses DTX.

Off: The mobile never uses DTX.

Normal: The mobile station uses DTX only when allowed to by the network.

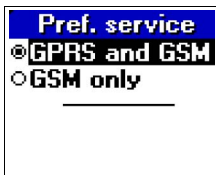
5. Controlling T68i GPRS Behavior

The TEMS Pocket functions in the T68i do not include commands for connecting to and disconnecting from the GPRS network. This is not needed, since such basic GPRS behavior is implicitly governed by some menu settings that are in the commercial T68i.

5.1. GPRS Attach/Detach

To control GPRS Attach and Detach, proceed as follows:

- When not in menu mode, move the joystick left twice, and press YES. The Connect menu appears.
- Move the joystick up twice to select **Data comm.** Press YES.
- In the Data comm. menu, select **Pref. service.** Press YES.



The setting here has the following effects:

- If **GPRS and GSM** is chosen, the T68i will automatically attach to GPRS. If this setting is active when you turn on the mobile, it will perform a GPRS attach as soon as you have entered your PIN code.
- If a GPRS connection is up and you change the setting to **GSM only**, the T68i will immediately detach from GPRS.

5.2. PDP Context Activation

A PDP context is activated automatically when you start the WAP browser (see the T68i user manual for details).

When you exit the WAP menu, you are asked whether you wish to close down the connection. If you do this, you also deactivate the PDP context.

6. Support Contact Information

For support in the use of TEMS Pocket, please contact Ericsson according to the directions found at

www.ericsson.com/tems

under the link "Tech Support".

Appendix A. Parameter Values

This appendix lists the possible values of some parameters appearing in the views and of some event parameters.

A.1. Reject Cause

- 2 IMSI unknown in HLR
- 3 Illegal MS
- 4 IMSI unknown in VLR
- 5 IMEI not accepted
- 6 Illegal ME
- 11 PLMN not allowed
- 12 Location area not allowed
- 13 Roaming not allowed in this location area
- 17 Network failure
- 22 Congestion
- 32 Service option not supported
- 33 Requested service option not subscribed
- 35 Service option temporarily out of order
- 38 Call cannot be identified
- 48–63 Retry upon entry into a new cell
- 95 Semantically incorrect message
- 96 Invalid mandatory information
- 97 Message type non-existent or not implemented
- 98 Message type not compatible with the protocol state
- 99 Information element non-existent or not implemented
- 100 Conditional IE error
- 101 Message not compatible with the protocol state
- 111 Protocol error, unspecified

A.2. Radio Resource Cause

- 0 Normal event
- 1 Abnormal release, unspecified
- 2 Abnormal release, channel unacceptable
- 3 Abnormal release, timer expired
- 4 Abnormal release, no activity on the radio path
- 5 Preemptive release
- 8 Handover impossible, timing advance out of range
- 9 Channel mode unacceptable
- 10 Frequency not implemented
- 65 Call already cleared
- 95 Semantically incorrect message
- 96 Invalid mandatory information
- 97 Message type non-existent or not implemented
- 98 Message type not compatible with protocol state
- 100 Conditional IE error
- 101 No cell allocation available
- 111 Protocol error unspecified

A.3. CCCH Configuration

- 0 1 basic physical channel used for CCCH, not combined with SDCCHs
- 1 1 basic physical channel used for CCCH, combined with SDCCHs
- 2 2 basic physical channels used for CCCH, not combined with SDCCHs
- 4 3 basic physical channels used for CCCH, not combined with SDCCHs
- 6 4 basic physical channels used for CCCH, not combined with SDCCHs

A.4. Attach/Detach

- 0 IMSI attach not allowed
- 1 Apply IMSI attach

A.5. Channel Type

- BCCH Broadcast Control Channel, Signalling
- PBCCH Packet Broadcast Control Channel
- PDTCH Packet Dedicated Traffic Channel
- SDCCH Stand-alone Dedicated Control Channel
- TCH/F Traffic Channel, Full Rate
- TCH/H Traffic Channel, Half Rate

A.6. Channel Mode

- 0 Signalling only
- 1 Speech full rate version 1 (Full Rate)
- 2 Data 14.4 kbit/s full rate
- 3 Data 9.6 kbit/s full rate
- 4 Data 4.8 kbit/s full rate
- 5 Data 2.4 kbit/s full rate
- 6 Speech full rate version 2 (Enhanced Full Rate)

A.7. Frequency Hopping

- 0 Single RF channel
- 1 RF hopping channel

A.8. Ciphering

- 0 No ciphering
- 1 Start ciphering

A.9. Page Mode

- 0 Normal paging
- 1 Extended paging
- 2 Paging reorganization

A.10. GPRS Network Mode of Operation

Handling of paging in the GPRS network.

- I Mode I: All paging on GPRS channels; Gs signalling interface present
- II Mode II: All paging on PCH; no Gs
- III Mode III: All circuit-switched paging on PCH, all packet-switched paging on PPCH; no Gs

A.11. Disconnect Cause

- 1 Unassigned (unallocated) number
- 3 No route to destination
- 6 Channel unacceptable
- 8 Operator determined barring
- 16 Normal call clearing
- 17 User busy
- 18 No user responding
- 19 User alerting, no answer
- 21 Call rejected
- 22 Number changed
- 25 Pre-emption
- 26 Non selected user clearing
- 27 Destination out of order
- 28 Invalid number format (incomplete number)
- 29 Facility rejected
- 30 Response to STATUS ENQUIRY
- 31 Normal, unspecified (*not logged*)
- 34 No circuit/channel available
- 38 Network out of order
- 41 Temporary failure
- 42 Switching equipment congestion
- 43 Access information discarded
- 44 Requested circuit/channel not available
- 47 Resources unavailable, unspecified
- 49 Quality of service unavailable
- 50 Requested facility not subscribed
- 55 Incoming calls barred within the CUG

- 57 Bearer capability not authorized
- 58 Bearer capability not presently available
- 63 Service or option not available, unspecified
- 65 Bearer service not implemented
- 68 ACM equal to or greater than ACMmax
- 69 Requested facility not implemented
- 70 Only restricted digital information bearer capability is available
- 79 Service or option not implemented, unspecified
- 81 Invalid transaction identifier value
- 87 User not member of CUG
- 88 Incompatible destination
- 91 Invalid transit network selection
- 95 Semantically incorrect message
- 96 Invalid mandatory information
- 97 Message type non-existent or not implemented
- 98 Message type not compatible with protocol state
- 99 Information element non-existent or not implemented
- 100 Conditional IE error
- 101 Message not compatible with protocol state
- 102 Recovery on timer expiry
- 111 Protocol error, unspecified
- 127 Interworking, unspecified

A.12. GPRS Attach Fail Cause

- 3 Illegal MS
- 6 Illegal ME
- 7 GPRS services not allowed
- 8 GPRS services and non-GPRS services not allowed
- 11 PLMN not allowed
- 12 Location area not allowed
- 13 Roaming not allowed in this location area
- 96 Invalid mandatory information
- 99 IE non-existent or not implemented
- 100 Conditional IE error
- 111 Protocol error, unspecified
- T3310 Fifth expiry of T3310 timer (MS side)

A.13. GPRS Detach Type

If GPRS Detach Cause = 1 (MS initiated)

- 0 Normal
- 1 PowerOff

else

- 1 Reattach required
- 2 Reattach NOT required
- 3 IMSI detach after VLR failure

A.14. GPRS Detach Cause

- 1 MS initiated
- 2 IMSI unknown in HLR
- 3 Illegal MS
- 6 Illegal ME
- 7 GPRS services not allowed
- 8 GPRS services and non-GPRS services not allowed
- 10 Implicitly detached
- 11 PLMN not allowed
- 12 Location area not allowed
- 13 Roaming not allowed in this location area

A.15. Activate PDP Context Fail Cause

- 26 Insufficient resources
- 27 Missing or unknown APN
- 28 Unknown PDP address or PDP type
- 29 User authentication failed
- 30 Activation rejected, unspecified
- 31 Activation rejected by GGSN
- 32 Service option not supported
- 33 Requested service option not subscribed
- 34 Service option temporarily out of order
- 35 NSAPI already used
- 95 Semantically incorrect message
- 96 Invalid mandatory information
- 97 Message type non-existent or not implemented
- 98 Message type not compatible with the protocol state
- 99 Information element non-existent or not implemented
- 111 Protocol error, unspecified
- T3380 Fifth expiry of T3380 timer (MS side)

A.16. Deactivate PDP Context Cause

- 25 LLC or SMDCP failure
- 26 Insufficient resources

- 36 Regular PDP context deactivation
- 37 QoS not accepted
- 38 Network failure
- 39 Reactivation requested
- T3390 Fifth expiry of T3390 timer (MS side)

A.17. Routing Area Update Fail Cause

- 3 Illegal MS
- 6 Illegal ME
- 7 GPRS services not allowed
- 9 MS identity cannot be derived by the network
- 10 Implicitly detached
- 11 PLMN not allowed
- 12 Location area not allowed
- 13 Roaming not allowed in this location area
- 96 Invalid mandatory information
- 99 IE non-existent or not implemented
- 100 Conditional IE error
- 111 Protocol error, unspecified
- T3330 Fifth expiry of T3330 timer (MS side)

Appendix B. Graphic Representation of Parameter Values

This appendix describes the bar length and color coding used to visualize parameter values.

B.1. RxLev

RxLev (dBm)	Bar length (pixels)	Bar length (characters)	Color
< -100	6	1	red
$-100 \leq \dots < -90$	12	2	orange
$-90 \leq \dots < -80$	18	3	yellow
$-80 \leq \dots < -70$	21	3.5	light green
≥ -70	24	4	green

B.2. Cell Selection (C1, C2, C31, C32)

Value	Bar length (pixels)	Bar length (characters)	Color
< 10	6	1	red
$10 \leq \dots < 20$	9	1.5	orange
$20 \leq \dots < 30$	12	2	yellow
$30 \leq \dots < 40$	15	2.5	light green
≥ 40	18	3	green

B.3. C/I

C/I (dB)	Bar length (pixels)	Bar length (characters)	Color
< 10	12	2	red
$10 \leq \dots < 15$	18	3	yellow
≥ 15	24	4	green

B.4. TxPower

TxPower (dBm)	Bar length (pixels)	Bar length (characters)	Color
< 15	constant: 2 characters		sky blue
$15 \leq \dots < 30$			denim blue
≥ 30			cobalt blue

B.5. FER, RLC/LLC Decode Errors/Retransmissions

Value (%)	Bar length (pixels)	Bar length (characters)	Color
0	constant: 2 characters		green
$0 < \dots < 5$			yellow
≥ 5			red

B.6. RxQual

Value	Bar length (pixels)	Bar length (characters)	Color
0	constant: 2 characters		green
1, 2			yellow
≥ 3			red

Appendix C. Default Settings in TEMS Pocket Menus

This appendix lists the defaults for all settings editable from the TEMS Pocket menus.

C.1. Data View Menu

- All data views visible

C.2. Settings Menu

- **Text Size:** Small
- **WAP View:** On
- **Messages:** Off
- **Cell Id Format:** Hex
- **Power Display:** dBm
- **Measure Mode:** Sub
- **Ignore TMSI:** Normal
- **Auto Answer:** Off

C.3. Info Menu

(No user-editable settings.)

C.4. Events Menu

- **Event Mode:** On
- **Event Settings:** Default values according to section 4.7.5, page 37.

C.5. Cell Control Menu

Note: Unlike the rest, these settings revert to their defaults (“Off”/ “Normal”) when the mobile is powered off and on.

- **Lock ARFCN:** Off
- **Force HO:** Off
- **Disable HO:** Off
- **Lock Band:** Normal
- **Multiband Rpt:** Normal
- **Cell Barred:** Normal
- **DTX Uplink:** Normal

Index

A

Activate PDP Context Fail Cause 55
Attach/Detach 13, 50
Auto Answer function 33

B

BA List data view (No. 9) 16
backlight (in display) 32
barred cells, accessing of 45
Base Station Identity Code 7, 9, 17, 19, 22
BS-AG-BLKS-RES 13
BSIC 7, 9, 17, 19, 22
BS-PA-MFRMS 13

C

C/I 7, 22
 graphic presentation 58
C/I data view (No. 12) 22
C1 10, 11
 graphic presentation 57
C2 10, 11
 graphic presentation 57
C31 11
 graphic presentation 57
C32 11
 graphic presentation 57
CA List data view (No. 8) 16
Call Re-establishment 15
Carrier-to-Interference Ratio 7, 22
CB 15
CCCH Configuration 13, 50
CCCH Group 15
Cell Barred 15, 45
Cell Control menu 41
Cell Global Identity 8
Cell Id (Cell Identity) presentation format 32

- Cell Identity 8, 12
- Cell Identity data view (No. 5) 12
- Cell Reselection Criterion (C2) 10
- Cell Selection data view (No. 3) 10
- CGI 8
- Channel Mode 8, 14, 51
- Channel Type 14, 51
- CI 8, 12
 - presentation format 32
- Ciphering 51
- Ciphering Mode 8, 14
- Ciphering On/Off 14
- color presentation 5
- Country Code 34
- Current Channel 13
- Current Channel data view (No. 6) 13

D

- data rate 14
- Data View menu 29
- data views 5
- Deactivate PDP Context Cause 56
- Delay Class (PDP Context Request) 20
- Disable HO 43
- Disconnect Cause 52
- Downlink Signalling Counter 8
- DRX Timer Max 19
- DSC 8
- DTX Uplink 45

E

- Event Settings (sound and logging settings for individual events) 36
- events 35
 - clearing the event log 35
 - event log 35
 - event mode 35
 - list of GPRS event types 39
 - list of GSM event types 38
 - sounds for 35, 41
 - structure of event log item 35
 - viewing the event log 35
- Events menu 35

F

FER 8

graphic presentation 58

Final Assembly Code 34

Force HO 23, 42

Frame Erasure Rate 8

Frequency Hopping 14, 51

Full/Sub values (for RxLev, RxQual, and FER) 32

G

GMM State 19

GPRS Access Burst Type 15

GPRS Access Type 15

GPRS Attach 46

GPRS Attach Fail Cause 54

GPRS Attached 19

GPRS behavior of T68i, controlling 46

GPRS block decode error rate 18

GPRS block resend rate 18

GPRS cell configuration 19

GPRS cell ranking criterion (C32) 11

GPRS Cell Selection data view (No. 4) 11

GPRS Cell/PDP data view (No. 11) 19

GPRS channel coding scheme 18

GPRS connection 17

GPRS coverage indicator 2

GPRS data transfer rate 18

GPRS data view (No. 10) 17

GPRS Detach 46

GPRS Detach Cause 55

GPRS Detach Type 54

GPRS Network Mode of Operation 19, 52

GPRS performance and performance statistics 18

GPRS signal strength threshold criterion (C31) 11

GPRS timeslots 17

GPRS, total data volume transferred 18

graphic presentation 5

details 57

H

help views 5

hopping channels 5, 9, 10, 11, 19, 22

Hopping Sequence Number 14

HSN 14

I

Identification Number 34
Ignore TMSI 33
IMEI 34
IMSI 34
Info menu 34
invalid parameters 5

L

LAC 8, 12
 presentation format 32
LLC protocol 18
Location Area Code 8, 12
Lock ARFCN (idle mode) 23, 42
Lock Band 43
Logical Channel 7, 9, 10, 11, 17, 19, 22

M

MAIO 14
MCC 8
Mean Throughput (PDP Context Request) 20
Measure Mode 32
menus 3, 26
 default settings in 60
 general 26
 navigating in 27, 28
 Quick menu 23
messages (displaying of) 31
MNC 8
Mobile Allocation Index Offset 14
Mobile Country Code 8
Mobile Network Code 8
Mobile Paging Subgroup 15
Mode (event sound and logging on/off) 35
MS-TXPWR-MAX-CCH 13
Multiband Rpt (modification of Multiband Reporting parameter) 44

N

Neighbor Cell BCCH 9, 10, 11
neighbor cells 9
Neighbor List data view (No. 2) 9
Network Code 34
Network Mode of Operation 19
NMO 19

P

- Packet Dedicated Traffic Channel 7, 17
- Packet Final Block Timer 19
- Packet TMSI 15
- Packet Uplink Assignment Timer 19
- Page Mode 51
- paging 15
- Paging & RACH data view (No. 7) 15
- Paging Block Index 15
- Paging Channel 15
- Paging Multiframe Group 15
- parameter values 49
- Path Loss Criterion (C1) 10
- PDP address (IPv4) 19
- PDP Context Activation 47
- PDP Context Request 20
- PDTCH 7, 17
- Peak Throughput (PDP Context Request) 20
- Pocket menu 3
 - overview 27
- Power Display 32
- Precedence Class (PDP Context Request) 20
- PTMSI 15

Q

- Quick menu 23
 - in dedicated mode 25
 - in idle mode 23

R

- RAC 8
- RACH 15
- RACH bursts
 - Establishment Cause/Random 15
 - number of 15
- RACo 11
- Radio Link Timeout 8
- Radio Resource Cause 50
- Random Access Channel 15
- Receive Bit Error Rate 8
- Received Signal Strength 7, 9, 12, 17, 19, 22
- Reject Cause 49
- Reliability Class (PDP Context Request) 20
- resetting all Pocket settings 33

- resetting cell control settings 41
- retransmissions, max number of 15
- RLC protocol 18
- RLC/LLC Decode Errors/Retransmissions, graphic presentation 58
- RLT 8
- Routing Area Code 8
- Routing Area Color 11
- Routing Area Update Fail Cause 56
- RxLev 7, 9, 12, 17, 19, 22
 - graphic presentation 57
 - unit of presentation 32
- RxLev presentation format 32
- RXLEV-ACCESS-MIN 13
- RxQual 8
 - graphic presentation 59

S

- SDCCH 7, 17
- Serial Number (of phone) 34
- Serving Cell BCCH 7, 9, 10, 11, 17, 19, 22
- Serving Cell data view (No. 1) 7
- Settings menu 29
- signal strength indicator 2
- sounds for events 35
- speech codec 14
- Stand-alone Dedicated Control Channel 7, 17
- Subchannel Number 14
- support contact information 48
- System Information 13 position 19

T

- T3168 timer start value 19
- T3192 timer start value 19
- T3212 13
- T3314 timer start value 19
- TCH 7, 17
- Temporary Mobile Subscriber Identity 15
- TEMS realtime tools, behavior when connected to 4
- text size in data views 30
- throughput (GPRS) 18
- Time Log 34
- Timeslot Number 7
- timeslots used by GPRS 17
- Timing Advance 8

- TMSI 15
 - ignoring 33
- Traffic Channel 7, 17
- Transmit Power 7
- TxPower
 - graphic presentation 58
 - unit of presentation 32
- TxPower presentation format 32
- Type Approval Code 34

W

- WAP browser data view 22
- WAP data view, visibility of 31
- What's New in TEMS Pocket T68i? 1

TEMS™ Optimization Solutions – the number one choice for operators worldwide. For every stage of a wireless network's life cycle and supporting all major technologies, the TEMS portfolio helps operators maximize their Quality of Service and get the most out of their network investment.

Ericsson's experience and technological leadership give network operators the strong partnership they need and a commitment to quality, accuracy, and success.

TEMS Optimization Solutions – *Making Wireless Better.*

Ericsson is shaping the future of Mobile and Broadband Internet communications through its continuous technology leadership. Providing innovative solutions in more than 140 countries, Ericsson is helping to create the most powerful communication companies in the world.